



State of New Hampshire  
DEPARTMENT OF ENVIRONMENTAL SERVICES

6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095  
(603) 271-3406 FAX (603) 271-7894



Mr. Eric Tenney  
Chairman  
Town of Antrim  
P.O. Box 517  
Antrim, NH 03440

May 21, 2002  
**Letter of Deficiency**  
DAM #009.12

RE: Great Brook Cutler Shop, Antrim

Dear Chairman Tenney:

The Department of Environmental Services, Dam Bureau (DES) consistently strives to enhance the safety of dams in New Hampshire through its dam safety program. One of the many instruments that plays a part in reaching this goal is our inspection program. DES is forwarding this correspondence to you to advise you that in accordance with RSA 482:12 and Env-Wr 502.02, an inspection of the subject dam was conducted on August 9, 2001. During this visual inspection and/or file review, the following deficiencies were observed:

1. Several trees and bushes were observed to be growing in the following locations throughout the dam:
  - a. Along the top of the right downstream concrete training wall;
  - b. At the junction of the right upstream concrete cutoff wall and earth embankment;
  - c. Along the crest, upstream embankment, and downstream embankment on the right side of the dam;
  - d. Along the left overflow spillway abutment and within the overflow channel;
  - e. On the downstream stone face of the left overflow spillway;
  - f. Within the downstream channel prior to entering the Summer Street culvert;
2. There was a sinkhole at the right corner of the concrete cutoff wall along the downstream side of the wall;
3. There was leaking throughout the entire length of the overflow spillway stone masonry wall with more substantial leaking within 12 feet of the primary spillway. The leaking has appeared to increase since the previous inspection;
4. There was substantial leaking around and under the stoplogs;
5. There was concrete deterioration at the base of the right downstream concrete training wall with leaking at the base of the wall;
6. There was seepage with standing water at the far left side of the dam just prior to entering into the overflow spillway channel;
7. There was debris in the downstream channel just prior to entering the culvert below Summer Street;
8. There was no operational procedure plan (O&M) located on file with DES; and

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9. The hydrologic analysis indicates that storm water would overtop this dam by approximately .2 feet at the peak of the design storm.

DES believes that the above deficiencies can be corrected by performing the following items by the indicated schedule:

August 1, 2002:

1. Remove the tree and brush from the following locations:
  - a. Along the top of the right downstream concrete training wall;
  - b. At the junction of the right upstream concrete cutoff wall and earth embankment;
  - c. Along the crest, upstream embankment, and downstream embankment on the right side of the dam;
  - d. Along the left overflow spillway abutment and within the overflow channel;
  - e. On the downstream stone face of the left overflow spillway;
  - f. Within the downstream channel prior to entering the Summer Street culvert;
2. Repair the sinkhole at the right corner of the concrete cutoff wall along the downstream side of the wall;
3. Prepare and submit to the DES a written O&M plan. The plan should describe the control of impoundment levels, monitoring and maintenance procedures, and identify emergency contact personnel;
4. If the debris has not been removed from the downstream channel, just prior to entering the culvert below Summer Street, remove the debris and make a reference to removing the debris on a periodic basis in the above mentioned O&M plan;

December 1, 2002:

5. As indicated in our previous letter dated February 23, 1996 conduct a deep drawdown and investigate and repair the leakage as observed throughout the entire dam, as listed above, and inspect the gate mechanism area for deterioration and possible repair. The leaking through the dam has increased in several locations since 1995;
6. Additionally, due to the fact that your dam and the downstream road will be overtopped at the peak of the design storm and as indicated in the February 23, 1996 letter, DES would like you to stabilize the abutments to the dam and the downstream earth embankment for overtopping with appropriately sized riprap. Additionally, a dredge and fill application may be necessary from the Wetland Bureau to complete this work. They may be reached at 271-2147; and
7. Repair the deteriorated concrete at the base of the right downstream concrete training wall

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Due to the time that has lapsed as well as additional deficiencies observed as a result of the August 9, 2001 inspection, DES will be officially closing out the 1995 LOD. Enclosed is a copy for your reference. It is our hope that the additional deficiencies as well as the outstanding deficiencies will be addressed within the schedule indicated above.

DES is requesting that you complete and submit the attached "Intent to Complete Repairs" form, within 30 days of receipt of this letter, that will provide for correction of the identified deficiencies by the date(s) indicated above. If you believe changes to the items of work or dates are necessary, please make the changes directly on the form and provide a brief explanation. We have enclosed a self addressed stamped envelope for you to return this form.

Our intent in sending you this correspondence is to make you aware of items that DES believes warrant your attention to insure the continued safe operation of your dam. It is our hope that, through the submittal of the attached form and a commitment to keeping a well-maintained dam, you will voluntarily comply with the requested items of work. If we do not receive the intent form or a similarly adequate written reply, we will assume that you are in agreement with our findings and recommendations and DES will carry out follow-up inspections accordingly.

If you have any questions or comments regarding this Letter of Deficiency or would like to be present at future inspections, please contact me at 271-3406, or write to the Water Division at the address listed on the top of the previous page.

Sincerely,

**COPY**

Dale F. Guinn, P.E.  
Dam Safety Engineer

Attachments DB8, DB13, Copy of 1995 LOD

cc: Gretchen Rule

Certified # 7099 3400 0002 9773 7542

DFG/was/h:/safety/wendy/lod/009-12lod.doc